



**Release Bulletin**

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# **Replication Server<sup>®</sup> Options**

## **15.6**

Linux, Microsoft Windows, and UNIX

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# Product Summary

The Sybase® Replication Server® Options can be purchased separately from Replication Server, or as part of Replication Server Heterogeneous Edition (RSHE) or Replication Server Real-Time Loading Edition (RTLLE).

## Replication Server Options

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Use Replication Server Options with Replication Server for bidirectional replication across distributed, heterogeneous systems, which allows you to perform different operational and decision-support tasks. To obtain an option, you must already have Replication Server.

Replication Server Options are compatible with the same platform and operating system configurations as Replication Agent™ 15.6, Enterprise Connect™ Data Access (ECDA) 15.0, and ExpressConnect 15.5 ESD #1 for Oracle. For specific hardware and software requirements, see the *Enterprise Connect Data Access Release Bulletin*, the *ExpressConnect for Oracle Installation and Configuration Guide*, and the *Replication Agent Installation Guide*.

For more general information about the Replication Server Options, see the *Replication Server Heterogeneous Replication Guide*.

### *Version Contents*

Replication Server Options are available for Oracle, Microsoft SQL Server, and IBM DB2 Universal Database (UDB). Each option requires a license for accessing data only in the specified data source.

- Replication Server Option for Oracle consists of:
  - Express Connect for Oracle – licensed for Oracle
  - Replication Agent – licensed for Oracle
- Replication Server Option for Microsoft SQL Server consists of:
  - ECDA Option for ODBC – licensed for ODBC
  - Replication Agent – licensed for Microsoft SQL Server
- Replication Server Option for IBM DB2 UDB consists of:
  - ECDA Option for ODBC – licensed for ODBC
  - Replication Agent – licensed for IBM DB2 UDB

### **See also**

- *Licensing Options* on page 3

## Replication Server Heterogeneous Edition

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Replication Server Options and Replication Server are also sold together as part of the Replication Server Heterogeneous Edition (RSHE).

You can use RSHE to replicate between different kinds of data servers. RSHE supports Adaptive Server® Enterprise and non-Sybase data servers such as Oracle, IBM DB2 UDB, and Microsoft SQL Server.

RSHE is compatible with the same platform and operating system configurations as Replication Server 15.6, Replication Agent 15.6, ECDA 15.0 ESD #3 and later, and ExpressConnect for Oracle 15.5 ESD #1. For specific hardware and software requirements, see the *Replication Server Installation Guide*, the *Replication Agent Installation Guide*, the *Enterprise Connect Data Access Release Bulletin*, and the *ExpressConnect for Oracle Installation and Configuration Guide*.

### Version Contents

RSHE consists of:

- Replication Server 15.6
- Replication Agent 15.6, including:
  - Replication Agent for Oracle
  - Replication Agent for Microsoft SQL Server
  - Replication Agent for IBM DB2 UDB
- ECDA Options 15.0

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**Note:** In RSHE 15.6, ECDA is used to connect only to Microsoft SQL Server and IBM DB2 Universal Database (UDB), and you must download and apply ECDA 15.0 ESD #3 or later. ECDA option for Oracle is not supported in RSHE 15.6.

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- Express Connect for Oracle 15.5 ESD #1

All RSHE components except Replication Server are licensed statically.

Replication Server 15.6 can be licensed for a subset of the CPUs on which it is installed (subcapacity licensing). See the *Replication Server Installation Guide*.

## Replication Server Real-Time Loading Edition

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The Replication Server Real-Time Loading Edition (RTLE) includes components necessary to replicate to a Sybase IQ database.

RTLE enables real-time loading for replicating data from Adaptive Server or Oracle to Sybase IQ. Replication from Oracle requires Replication Agent for Oracle. Although real-time loading is supported on all platforms that Replication Server supports, Replication Agent for Oracle is not available on Linux on POWER or on Sun Solaris x64. However, you can run

Replication Agent for Oracle on any of the supported platforms. For a list of platforms on which Replication Agent for Oracle is available, see the *Replication Agent Installation Guide*.

### Version Contents

RTLE consists of:

- Replication Server 15.6
- Replication Agent for Oracle 15.5

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**Note:** The 15.5 license will continue to work with Replication Agent for Oracle 15.6.

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With RTLE, Replication Agent for Oracle is licensed statically.

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**Note:** Although RTLE is compatible with Replication Agent for Oracle, it is not included with RSO or RSHE.

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Replication Server 15.6 can be licensed for a subset of the CPUs on which it is installed (sub-capacity licensing). See the *Replication Server Installation Guide*.

## Licensing Options

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Before installing, review the licensing options.

**Table 1. Licensing Options for RSO Components**

RSO Component	Licensing Options
Replication Agent	A SySAM served or unserved license obtained from the SPDC is required.
ECDA for ODBC	Obtain the SYBASE_RSO_licenses.zip file that contains the SYBASE_REP_ECDA.lic static license file, and the README.txt file from the Getting Started CD.
ECO	The Express Connect for Oracle license is automatically installed when you install Express Connect for Oracle.

**Table 2. Licensing Options for RSHE Components**

RSHE Component	Licensing Options
Replication Server	A SySAM served or unserved license obtained from the SPDC is required.

RSHE Component	Licensing Options
Replication Agent	<p>Obtain the <code>SYBASE_RSHE_licenses.zip</code> static license file that contains the Replication Agent license, the ECDA license, and the <code>README.txt</code> file from the Getting Started CD.</p> <p>You can use Replication Agent only with the version of Replication Server covered under the RSHE license.</p>
ECDA	<p>Obtain the <code>SYBASE_RSHE_licenses.zip</code> static license file that contains the Replication Agent license, the ECDA license, and the <code>README.txt</code> file from the Getting Started CD.</p> <p>You can use ECDA only with the version of Replication Server covered under the RSHE license.</p> <hr/> <p><b>Note:</b> Use ECDA to connect to Microsoft SQL Server and IBM DB2 Universal Database (UDB). To connect to Oracle, use ExpressConnect for Oracle.</p>
ECO	<p>The Express Connect for Oracle license is installed automatically when you install Express Connect for Oracle.</p>

**Table 3. Licensing Options for RTLE Components**

RTLE Component	Licensing Options
Replication Server	<p>A SySAM served or unserved license obtained from the SPDC is required.</p>
Replication Agent for Oracle	<p>Obtain the Replication Agent 15.5 static license file that includes the license for Replication Agent for Oracle and the <code>Readme.txt</code> from SPDC or the Getting Started CD.</p> <hr/> <p><b>Note:</b> This license will also work with Replication Agent for Oracle 15.6.</p> <p>You can use Replication Agent only with Replication Server covered under the RTLE license.</p>

## Installation and Upgrade

Get last-minute information about installation and upgrading that was omitted from or incorrect in your installation guide, or that needs special emphasis.

### *Replication Server Options Licenses*

Read the information about mobile licensing in the *Sybase Software Asset Management 2 Users Guide*.



If you are using sub-capacity licensing, perform one of the following:

- Before starting your installer, set the SYBASE\_SAM\_CAPACITY environment variable using the **sysamcap** utility.  
Follow the instructions provided in the *SySAM Users Guide > Configuring SySAM Sub-capacity*. However, start your installer instead of starting the sub-capacity-enabled Sybase product. The installer includes the **sysamcap** utility located in `sysam_utilities/bin`.
- Select **Continue installation without a license key** in the Sybase Software Asset Management License pane during installation. After installation, copy your license key to `installed_directory/SYSAM-2_0/licenses` directory where `installed_directory` is the location in which you have installed your components into.

### *License Expiration*

Replication Server Options, Replication Server, and Adaptive Server use the same registry. When the license for one of these products expires, the licenses of the other products are affected. If you are evaluating one of the Replication Server Options, request another evaluation license from Sybase. Otherwise, generate your licenses at SPDC and deploy them.

### *Running InstallAnywhere and InstallShield Multiplatform Installers*

Some of the files generated by InstallAnywhere and InstallShield Multiplatform share the same file names. This becomes an issue when you use both InstallAnywhere and InstallShield technologies to install or uninstall products in the same installation directory because files that are used by both installers are overwritten or removed without warning. Sybase recommends that you do not use InstallShield and InstallAnywhere to install to or uninstall from the same installation directory.

## **Installing a Static License for Replication Agent**

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If you did not specify the static license during RSHE or RTLE installation, install the static license after the installation is complete.

1. Stop the Replication Agent instance if it is running.
2. Copy the Replication Agent static license file to:
  - `SYBASE/SYSAM-2_0/licenses` (UNIX or Linux)
  - `%SYBASE%\SYSAM-2_0/licenses` (Windows)

where `SYBASE` or `%SYBASE%` is where you installed Replication Agent.

3. Restart the Replication Agent instance.
4. Check the Replication Agent log file to verify that the Replication Agent instance has started successfully:

- `$SYBASE/RAX-15_x/<instance_name>/log/<instance_name>.log` (UNIX or Linux)
- `%SYBASE%\RAX-15_x\<instance_name>\log\<instance_name>.log` (Windows)

## Installing Static Licenses for ECDA in RSO and RSHE

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Install the static SySAM license files to use ECDA in Replication Server Option for Microsoft SQL Server and IBM DB2 UDB, and ECDA in RSHE.

1. Stop the ECDA instance if it is running.
2. Copy the ECDA static license file to:
  - `$SYBASE/SYSAM-2_0/licenses` (UNIX or Linux)
  - `%SYBASE%\SYSAM-2_0\licenses` (Windows)where `$SYBASE` or `%SYBASE%` is where you installed ECDA.
3. Restart the ECDA instance.
4. Check the ECDA instance log file to verify that the ECDA instance has started successfully:
  - `$SYBASE/DC-15_0/servers/<servername>/log/<servername>.log` (UNIX or Linux)
  - `%SYBASE%\DC-15_0\servers\<servername>\log\<servername>.log` (Windows)

where `$SYBASE` or `%SYBASE%` is where you installed ECDA.

## Migration from RSHE 15.2 to RSHE 15.6

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Learn about the Replication Server Heterogeneous Edition version 15.2 to 15.6 migration path.

### *Replication Server*

Install Replication Server 15.6 using the Replication Server installer. For information about upgrading Replication Server, see *Replication Server 15.6 Configuration Guide* for your platform.

### *Replication Agent*

Install Replication Agent 15.6 using the Replication Agent installer. For information about upgrading Replication Agent, see *Replication Agent Primary Database Guide 15.5 > Appendix A: Upgrading Replication Agent*.

## ECDA

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**Note:** In RSHE 15.6, ECDA is used to connect only to Microsoft SQL Server and IBM DB2 Universal Database (UDB). ECDA option for Oracle is not supported in RSHE 15.6.

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If you do not have ECDA 15.0 ESD #3 installed, install ECDA 15.0 using the ECDA installer, then download and apply ESD #3. For additional information about ECDA 15.0 ESD #3, see the ECDA 15.0 ESD #3 Release Cover Letter available at <http://www.sybase.com/downloads>.

### *ExpressConnect for Oracle*

Install and use ExpressConnect for Oracle to connect to Oracle databases. See *ExpressConnect for Oracle Installation and Configuration Guide* for details.

## Known Issues

Learn about known issues and workarounds.

Find issues by Change Request (CR) number.

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**Note:** You can search the Sybase Web site for solved cases. Choose **Support > Solved Cases** or go to <http://search.sybase.com/search/simple.do?mode=sc>. You need a MySybase account to view solved cases in the archive.

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For known issues concerning Replication Agent and ECDA, see:

- *Replication Agent Release Bulletin*
- *Enterprise Connect Data Access Release Bulletin* for Microsoft Windows
- *Enterprise Connect Data Access Release Bulletin* for Linux and UNIX
- *Replication Server Release Bulletin* for your platform

The known issues for the Replication Server Options are in addition to those described in the individual product release bulletins.

## Known Issues for Oracle

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Learn about known issues and workarounds for Oracle.

**Table 4. Known Issues for Oracle**

CR#	Description
	<p><b>Running ExpressConnect for Oracle with Replication Server.</b></p> <p>ExpressConnect 15.5 for Oracle requires Replication Server 15.5 ESD #1, while ExpressConnect 15.5 ESD #1 for Oracle requires Replication Server 15.6.</p> <p><b>Workaround:</b> Use the correct version of ExpressConnect for Oracle with your Replication Server installation.</p>
629095	<p><b>Oracle XML table fails to replicate.</b></p> <p>Replication Server cannot replicate the data manipulation language (DML) statements issued against an Oracle XMLType table.</p> <p><b>Workaround:</b> None.</p>
627878	<p><b>ExpressConnect for Oracle does not support opaque datatypes.</b></p> <p>The Replication Server <code>opaque</code> datatype is not supported by ExpressConnect for Oracle 15.5, which means that this version of ExpressConnect for Oracle cannot support user-defined datatypes and the Oracle <code>anydata</code> function.</p> <p><b>Workaround:</b> None.</p>
626715	<p><b>ExpressConnect for Oracle fails when bulk copy is enabled and the bulk copy threshold is set to 1.</b></p> <p>ExpressConnect for Oracle fails when you set <code>dsi_bulk_copy</code> to on and <code>dsi_bulk_threshold</code> to 1. Setting <code>dsi_bulk_threshold</code> to 1 deteriorates and suspends the Data Server Interface (DSI).</p> <p><b>Workaround:</b> Set <code>dsi_bulk_threshold</code> to 2 or higher.</p>
593055	<p><b>DirectConnect fails with an error message when replicating XML.</b></p> <p>ECDA does not support replication of XML data. When replicating a table with XML data, ECDA displays an error message stating that a column in the table does not exist.</p> <p><b>Workaround:</b> Migrate to ExpressConnect for Oracle.</p>

CR#	Description
	<p><b>No support for automatic failover when replicating into a RAC system.</b></p> <p>ECDA 15.0 and earlier supports replication into an Oracle instance, even if the instance is a node in a Real Application Cluster (RAC) system. However, if the configured node fails, ECDA 15.0 and earlier does not support automatically failing over to another node in the RAC system.</p> <hr/> <p><b>Note:</b> As of ECDA 15.0 ESD #1, automatic failover when replicating into a RAC system is supported.</p> <hr/> <p><b>Workaround:</b> When the node that the ECDA service is connected to fails, reconfigure the ECDA service to use a different node in the RAC system.</p>
590128	<p><b>LOB value not being applied to existing row.</b></p> <p>When replicating a LOB column, ECDA for Oracle first determines the ROWID value for the Oracle row that should contain the LOB. The row for that ROWID is updated with the LOB value. However, if the table in the replicate Oracle database is a reference table, and the parent table is partitioned across multiple tablespaces, then the ROWID returned for the reference table may be incorrect, resulting in the LOB value not being applied to the expected row. The Oracle bug ID for this incorrect ROWID problem is 8417690.</p> <p><b>Workaround:</b> None.</p>

## Known Issues for Red Hat Enterprise Linux 5.0

Learn about known issues and workarounds for running Replication Server Options components on Red Hat Enterprise Linux 5.0.

**Table 5. Known Issues for Red Hat Enterprise Linux 5.0**

CR#	Description
	<p><b>Cannot start Replication Agent or ECDA.</b></p> <p>The following message is displayed:</p> <pre>Error while loading shared libraries.</pre> <p><b>Workaround:</b> Check the system configuration and change the firewall configuration from <b>enforcing</b> to <b>permissive</b>. You must have root or sudo permission to make this change.</p>

# Document Updates and Clarifications

Read about updates, corrections, and clarifications to the documentation released with Replication Server Options.

## **Packaging Does Not Include SyBooks CD**

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Replication Server Options does not include the SyBooks™ CD. To learn more about your product, use the Sybase Getting Started CD and the Sybase Product Manuals Web site.

## **ECDA Documentation Changes**

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Read about updates, corrections, and clarifications to released documentation for ECDA.

Considerations when using the ECDA manuals:

- The Sybase Data Integration Suite Replication, which included ECDA, is no longer available. Disregard any mention of Sybase Data Integration Suite Replication in the ECDA documents.
- As of Replication Server Options 15.5, the ECDA Option for Oracle has been replaced by ExpressConnect for Oracle, though ECDA manuals continue to mention the ECDA Option for Oracle. For information on ExpressConnect for Oracle, see the *ExpressConnect for Oracle Installation and Configuration Guide* and the *Replication Server Options Overview Guide*.

## **Array Processing Requirement in ExpressConnect for Oracle**

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Ensure that array processing in ExpressConnect for Oracle is applied only to tables that have a table-level replication definition.

The performance enhancement provided by array processing within the ExpressConnect for Oracle connection requires the information included in the table-level replication definition.

## Obtaining Help and Additional Information

Use the Sybase Getting Started CD, Product Documentation site, and online help to learn more about this product release.

- The Getting Started CD (or download) – contains release bulletins and installation guides in PDF format, and may contain other documents or updated information.
- Product Documentation at <http://sybooks.sybase.com/> – is an online version of Sybase documentation that you can access using a standard Web browser. You can browse documents online, or download them as PDFs. In addition to product documentation, the Web site also has links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, Community Forums/Newsgroups, and other resources.
- Online help in the product, if available.

To read or print PDF documents, you need Adobe Acrobat Reader, which is available as a free download from the *Adobe* Web site.

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**Note:** A more recent release bulletin, with critical product or document information added after the product release, may be available from the Product Documentation Web site.

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## Technical Support

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Get support for Sybase products.

If your organization has purchased a support contract for this product, then one or more of your colleagues is designated as an authorized support contact. If you have any questions, or if you need assistance during the installation process, ask a designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

## Downloading Sybase EBFs and Maintenance Reports

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Get EBFs and maintenance reports from the Sybase Web site.

1. Point your Web browser to <http://www.sybase.com/support>.
2. From the menu bar or the slide-out menu, under **Support**, choose **EBFs/Maintenance**.
3. If prompted, enter your MySybase user name and password.
4. (Optional) Select a filter from the **Display** drop-down list, select a time frame, and click **Go**.
5. Select a product.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as an authorized support contact. If

you have not registered, but have valid information provided by your Sybase representative or through your support contract, click **My Account** to add the “Technical Support Contact” role to your MySybase profile.

6. Click the **Info** icon to display the EBF/Maintenance report, or click the product description to download the software.

## Sybase Product and Component Certifications

Certification reports verify Sybase product performance on a particular platform.

To find the latest information about certifications:

- For partner product certifications, go to [http://www.sybase.com/detail\\_list?id=9784](http://www.sybase.com/detail_list?id=9784)
- For platform certifications, go to <http://certification.sybase.com/ucr/search.do>

## Creating a MySybase Profile

MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

1. Go to <http://www.sybase.com/mysybase>.
2. Click **Register Now**.

## Accessibility Features

Accessibility ensures access to electronic information for all users, including those with disabilities.

Documentation for Sybase products is available in an HTML version that is designed for accessibility.

Vision impaired users can navigate through the online document with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Sybase HTML documentation has been tested for compliance with accessibility requirements of Section 508 of the U.S Rehabilitation Act. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

**Note:** You may need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.



For information about how Sybase supports accessibility, see the Sybase Accessibility site: <http://www.sybase.com/products/accessibility>. The site includes links to information about Section 508 and W3C standards.

You may find additional information about accessibility features in the product documentation.

